

Case 3515

***Rhynchotherium* Falconer, 1868 (Mammalia; Proboscidea): proposed conservation of usage by designation of *Rhynchotherium falconeri* Osborn, 1923 as the type species**

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Abstract. The purpose of this application, under Article 81.1 of the Code, is to conserve the long and widely used name *Rhynchotherium* Falconer, 1868, applied to proboscidean fossils from North America, by designating *Rhynchotherium falconeri* Osborn, 1923 as the type species. It has long been agreed that the cast of the holotype of *R. tlascalae* Osborn, 1918, the type species of *Rhynchotherium*, belongs to the genus *Gomphotherium* Burmeister, 1837, so preservation of the present usage of the genus name *Rhynchotherium* requires a type species that fits the current concept of the genus. It is proposed that *Rhynchotherium falconeri* Osborn, 1923 be designated the type species.

Keywords: Nomenclature; taxonomy; Mammalia; Proboscidea; North America; Mexico; *Rhynchotherium*; *Gomphotherium*; *Rhynchotherium tlascalae*; *Rhynchotherium falconeri*.

1. Falconer (1868, p. 74) used the generic name *Rhynchotherium* (without a species name) for the plaster cast of a lower jaw of a fossil proboscidean from Mexico in the Muséum d'Histoire Naturelle, Geneva, Switzerland. The cast is still present in two pieces in the Geneva Museum collection under catalogue number 850.01 (Tobien, 1973; Lucas & Morgan, 2008). Falconer (1868, p. 74–75) did describe the lower jaw, and also distinguished it from species of the genus ‘*Mastodon*,’ so the name *Rhynchotherium* Falconer, 1868 is available according to the criteria set forth in Articles 11 and 12.

2. Osborn (1918, p. 135) introduced the new species name *Rhynchotherium tlascalae* for this cast. Osborn (1921) repeated the essential content of his 1918 paper, but emended the spelling of the name to *R. tlascalae*. This is not a justified emendation according to the standards of Article 32.5 of the Code, especially as the preferred spelling of the Mexican state from which the species name was derived is Tlaxcala (although Osborn, 1918, in a footnote (p. 135) spelled it as ‘Tlascala’). However, the unjustified emendation *tlascalae* is in prevailing usage, so in accordance with Article 33.2.3.1 it should be regarded as a justified emendation.

3. No species was included in *Rhynchotherium* until Osborn (1918) used the name *Rhynchotherium tlascalae* (currently *R. tlascalae*) for this cast, thus fixing the type species as *R. tlascalae* by subsequent monotypy. The whereabouts of the holotype (the model of the cast) have been unknown since Falconer (1868) (see Tobien, 1973; Lucas & Morgan, 2008). All subsequent workers have acknowledged *R. tlascalae* as

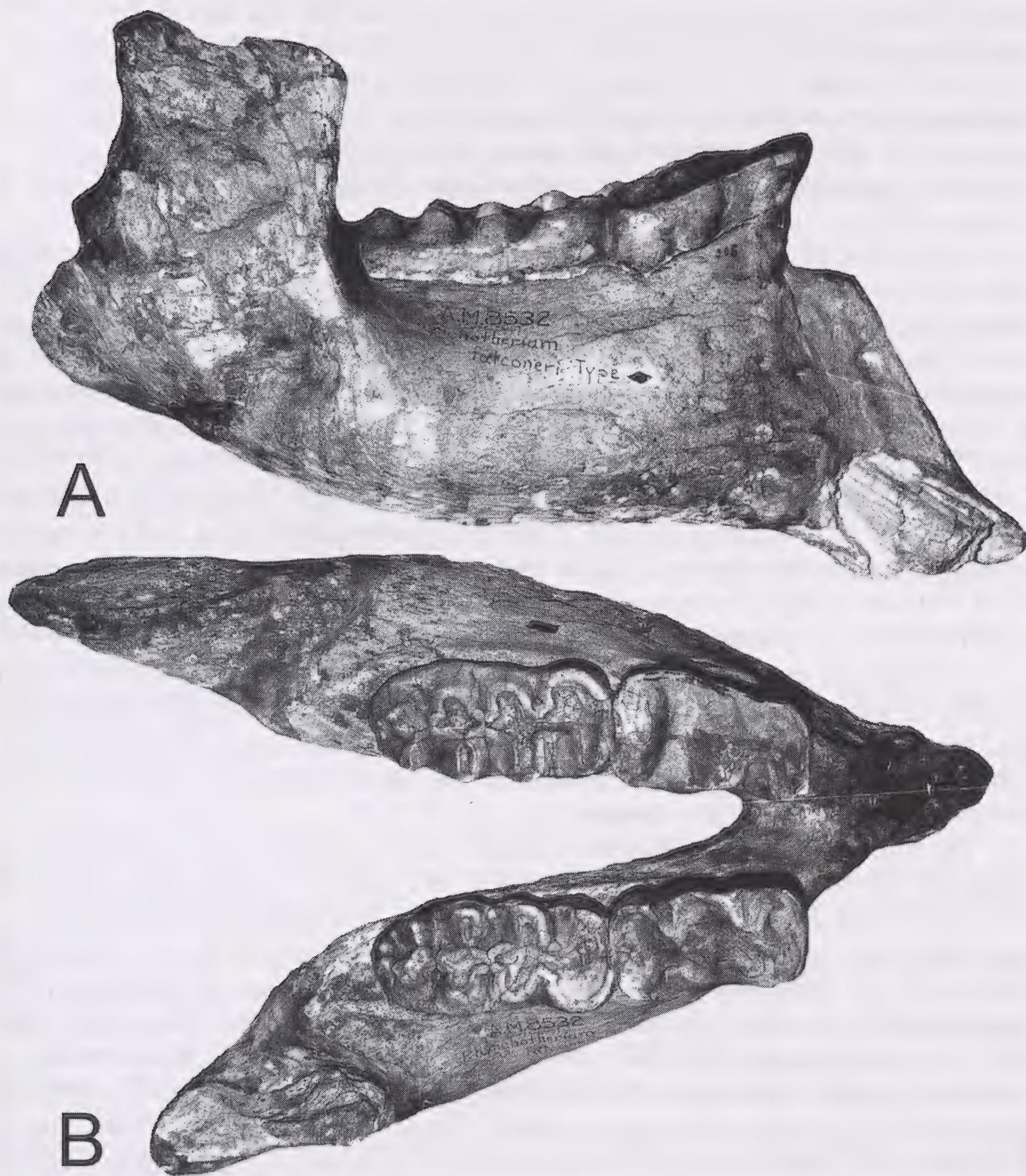


Fig. 1. *Rhynchotherium falconeri* Osborn, 1923; holotype AMNH 8532 (American Museum of Natural History, New York), lower jaw, in right lateral (A) and occlusal (B) views. For scale, the last lower molar is 174 mm long.

the type species of *Rhynchotherium* (e.g. Osborn, 1923, 1936; Tobien, 1973; Mebrate, 1987; Miller, 1980, 1990; Pasenko, 2000, 2007; Lucas et al., 1997; Lucas & Morgan, 1996, 2005, 2008).

4. Osborn (1921, p. 5, fig. 2C) illustrated jaws of both *Gomphotherium* and *Rhynchotherium* morphology, referring both to *Rhynchotherium*. However, most workers have used the name *Rhynchotherium* for a distinctive proboscidean genus with a jaw, molar and tusk morphology that distinguishes it from the closely related genus *Gomphotherium* Burmeister, 1837 (p. 795) (type species *Mastodon angustidens* Cuvier, 1817).

5. Tobien (1973, pp. 237–238, pl. 24, fig. 11, pl. 26, fig. 27) provided a detailed description and illustrations of the cast of the holotype of *Rhynchotherium tlascalae*. He cogently argued that the plaster cast of the jaw from Tlaxcala, Mexico, which is all that is known of the holotype of *Rhynchotherium tlascalae*, is actually the cast of a jaw of a different gomphothere genus, *Gomphotherium* Burmeister, 1837, a conclusion accepted by subsequent workers (see above and summary by Lucas & Morgan, 2008).

6. May (1981, p. 164) took this to one possible logical conclusion by considering *Rhynchotherium* Falconer, 1868, to be a junior subjective synonym of *Gomphotherium* Burmeister, 1837. However, all other workers have retained the long and widely-used generic name *Rhynchotherium*, even if its type species is based on the plaster cast of a specimen of another genus (e.g. Dalquest, 1975; Carranza-Castañeda, 1976; Kurtén & Anderson, 1980; Miller, 1980, 1990; Webb & Perrigo, 1984; Lucas & Morgan, 1996, 2005, 2008; Lucas et al., 1997; McKenna & Bell, 1997; Pasenko, 2000, 2007; Corona-M. & Alberdi, 2006). This incorrect usage apparently reflected an unwillingness to name a new genus for the distinctive proboscidean long but incorrectly referred to as *Rhynchotherium*. (I have provided the Commission Secretariat with a list of 100 uses of *Rhynchotherium* by 134 authors during the period 1868–2009; many more could be compiled).

7. Preservation of the long and widely-used genus name *Rhynchotherium* is only possible by use of the plenary power of the Commission to fix another type species for the genus that fits the longstanding concept of the genus *Rhynchotherium*. Otherwise, *Rhynchotherium* will remain a junior synonym of *Gomphotherium*, disrupting long and universal usage.

8. The solution that best serves the stability and universality of nomenclature is to designate *Rhynchotherium falconeri* Osborn, 1923 (p. 3) as the type species of *Rhynchotherium*. *R. falconeri* is based on a lower jaw from the Pliocene of Texas that has long been recognised as a member of *Rhynchotherium* as it is currently understood, i.e. *Rhynchotherium* as distinct from *Gomphotherium* (e.g. Tobien, 1973; Dalquest, 1975; Carranza-Castañeda, 1976; Kurtén & Anderson, 1980; Miller, 1980, 1990; Lucas & Morgan, 1996, 2005, 2008; Pasenko, 2000, 2007). *R. tlascalae* was the first species validly included in *Rhynchotherium*, but it does not agree with the current usage, while *R. falconeri*, the oldest available name of a species of *Rhynchotherium* in its current sense fully agrees with modern usage. It is based on a diagnostic holotype specimen extant in a collection. It is based on the holotype lower jaw in the American Museum of Natural History, New York, U.S.A., catalogue no. 8532 (Lucas & Morgan, 2008).

9. If the name *Rhynchotherium* is not conserved as proposed here, then a new name will have to be created to refer to the distinctive proboscidean genus termed *Rhynchotherium* since 1868 (and its six nominal species) and more than a century of use of this universally accepted name in hundreds of palaeontological publications will become obsolete causing considerable confusion.

10. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to set aside all fixations of type species for *Rhynchotherium* Falconer, 1868 and to designate *Rhynchotherium falconeri* Osborn, 1923 as the type species of the genus *Rhynchotherium*;

- (2) to place on the Official List of Generic Names in Zoology the name *Rhynchotherium* Falconer, 1868 (gender: neuter), type species *Rhynchotherium falconeri* Osborn, 1923, as ruled in 1 (above);
- (3) to place on the Official List of Specific Names in Zoology the name *falconeri* as published in the binomen *Rhynchotherium falconeri* Osborn, 1923 (specific name of the type species of *Rhynchotherium*, as ruled in 1 (above)).

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